## What Is Claimed Is:

1	1. A system for providing voice communication over a packet-
2	switched network, comprising:
3	a gateway server that handles calls received from a public switched
4	telephone network and a packet-switched network;
5	a routing server; and
6	a database server, wherein messages can be sent between each of the
7	gateway server, routing server, and database server over the packet-switched
8	network.
1	2. The system of claim 1, further comprising:
2	a provisioning system coupled to said database server.
1	The system of claim 1, further comprising:
2	a management system; wherein messages can be sent between each of the
3	gateway server, routing server, database server, and management system over the
4	packet-switched network.
1	4. The system of claim 3, further comprising:
2	a network manager that automatically queries a client database to
3	determine an update, and sends a message representative of the update to at least
4	one of the gateway server, routing server, database server, and management
5	system over the packet-switched network.
1	5. The system of claim 1, further comprising:
2	a licensing server.

1	6. A system for providing gateway services in a voice
2	communication system over a packet-switched network, comprising:
3	an application layer that includes application services; and
4	a platform for sessions and modules, wherein said application layer
5	includes a gateway service and a common service.
1	7. A system of claim 6, wherein said application layer also includes
2	an autoforward service.
1	8. A system of claim 7, wherein said platform includes a session
2	manager that creates and manages sessions.
1	9. A system of claim 8, wherein said session manager includes a rule
2	engine.
1	10. A system of claim 8, wherein said session corresponds to a voice
2	call.
1	11. A system of claim 8, further comprising:
2	a line group manager that coordinates communication between a
3	telephone line side and a packet-switched network side of the gateway server;
4	a routing manager that manages route usage on the gateway server;
5	a database access manager that monitors access to the database server;
6	a media manager that manages voice prompt usage; and
7	a call rating manager that determines the costs to apply to each call.
1	12. A system of claim 11, further comprising:
2	a parsing subsystem coupled to said routing manager.

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1	13. A system of claim 12, wherein said parsing subsystem comprises:
2	maintaining means for maintaining a parsing table;
3	receiving means for receiving call information;
4	determining means for determining a country code;
5	retrieving means for retrieving pattern data from said parsing table;
6	determining means for determining an area code;
7	determining means for determining a local number;
8	determining means for determining an extension, and
9	outputting means for outputting a call address.
1	14. A system of claim 11, further comprising:
2	a dynamic cache subsystem coupled to said routing manager.
1	15. A system of claim 12, wherein said parsing subsystem matches
2	routes by wildcarding.
1.	16. A system of claim 11, further comprising:
2	a conversion module.
1	17. A system of claim 11, further comprising:
2	a hardware device manager module that coordinates telephony and
3	network components.
1	18. A system of claim 11, wherein said routing manager comprises:
2	maintaining means for maintaining a list of routes;
3	managing means for managing connections to the routing servers on the
4	network;
5	exporting means for exporting local routes to routing servers;
6	importing meant for importing disseminated routes from routing servers;
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7	receiving means for receiving a request for a route;
8	obtaining means for obtaining static global and dynamic routes from
9	routing servers;
10	caching means for caching said static global and said dynamic routes for
11	future use;
12	finding means for finding matching routes for a specific telephone
13	number; and
14	prioritizing means for prioritizing matching routes.
1	19. A system of claim 18, further comprising:
2	connecting means for connecting to routing servers, and
3	managing means for managing connections to routing servers.
1	A system for a gateway server, comprising:
2	first handling means for handling calls on a packet-switched network;
3	second handling means for handling calls on a telephony network;
4	bridging means for bridging said calls with routes between both a packet-
5	switched network and a telephony network;
6	first interacting means for interacting with calls to collect user
7	information;
8	first interfacing means for interfacing with routing system;
9	second interfacing means for interfacing with database system; and
10	second interacting means for interacting with other gateway servers.
1	21. A system of claim 20, wherein said routes comprise:
2	querying means for querying for a route; and
3	providing means for providing said route, wherein said route is stored
4	locally on the gateway server.

l	A routing server system comprising:
2	a routing application layer that serves routes; and
3	a platform for memory and modules, wherein said routing application
4	layer includes a route translation service.
1	23. A system of claim 22, further comprising:
2	a parsing subsystem coupled to the routing server.
1	A system of claim 23, wherein said parsing subsystem comprises:
2	maintaining means for maintaining a parsing table;
3	receiving means for receiving call information;
4	determining means for determining a country code;
5	retrieving means for retrieving pattern data from said parsing table,
6	determining means for determining an area code;
7	determining means for determining a local number;
8	determining means for determining an extension; and
9	outputting means for outputting a call address.
1	A system for routing server, comprising:
2	first receiving means for receiving exported local routes from gateway
3	servers;
4	transforming means for transforming exported local routes into dynamic
5	routes;
6	first storing means for storing said dynamic routes;
7	second storing means for storing static global and disseminated routes;
8	first providing means for providing said disseminated routes to gateway
9	servers;
10	second receiving means for receiving requests for matching routes from
11	gateway servers,
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12	determining means for determining a matching route; and
13	second providing means for providing said matching route.
1	26. A system of claim 25, wherein said means for exporting local
2	routes comprises:
3	requesting means for requesting exportable local routes from gateway
4	servers;
5	receiving means for receiving said exportable local routes from gateway
6	servers;
7	transforming means for transforming said exportable local routed into
8	dynamic routes on the routing server;
9	storing means for storing said dynamic routes; and
10	updating means for updating said dynamic routes.
1	27. A system of claim 25, wherein said means for transforming an
2	exported local route comprises:
3	receiving means for receiving exported local routes;
4	first checking means for checking a route address entry;
5	second checking means for checking route timing information;
6	third checking means for checking a route access entry;
7	fourth checking means for checking route ordering information;
8	first adding means for adding a route identity;
9	second adding means for adding of exporting gateway server; and
10	third adding means for adding a temporal stamp to said exported local
11	route.
1	28. A system of claim 25, wherein said means for disseminated
2	routing comprise:
3	first providing means for providing routes to a routing server;

4	querying means for querying merouring server for said foures configured
5	for dissemination; and
6	second providing means for providing matching routes to a gateway
7	server.
1	29. A system of claim 25, wherein said means for dynamic routing,
2	comprise:
3	connecting means for connecting to a routing server,
4	querying means for querying a routing server;
5	providing means for providing matching routes to a gateway server; and
6	matching means for storing said matching routes on a gateway server.
1	30. A system of claim 25, wherein said means for static global routing,
2	comprise:
3	connecting means for connecting to a routing server;
4	querying means for querying a routing server; and
5	providing means for providing matching routes to a gateway server.
1	3). A system for ordering routes, comprising:
2	first checking means for checking the address of a route;
3	second checking means for checking the preference of a route,
4	third checking means for checking the cost estimate of a route;
5	fourth checking means for checking the quality of service of a route; and
6	fifth checking means for checking the type of route.
1	32. A system for prioritizing routes, comprising:
2	first checking means for checking a route address entry;
3	second checking means for checking route timing information;
4	third checking means for checking a route access entry;

5	fourth checking means for checking route ordering information;
6	determining means for determining a reduced route,
7	comparing means for comparing a requested route with said reduced
8	route; and
9	providing means for providing a list of routes.
1	A system for determining a call address, comprising:
2	receiving means for receiving parsed data;
3	first matching means for matching area code digits;
4	second matching means for matching phone number digits;
5	third matching means for matching extension digits; and
6	prioritizing means for prioritizing route addresses with matched digits.
1	34. A system of claim 33, wherein said matching means use wildcard
2	values to hold the place of number values.
1	35. A method of providing voice communication over a
2	packet-switched network, comprising the steps of:
3	handling calls received from a public switched telephone network and a
4	packet-switched network with a gateway server that;
5	distributing call routing information with a routing server; and
6	managing user and call information with a database server, wherein
7	messages can be sent between each of the gateway server, routing server, and
8	database server over the packet-switched network.
1	The system of claim 35, further comprising the steps of:
2	accessing database records with a provisioning system coupled to said
3	database server

1	The system of claim 35, further comprising the steps of:
2	configuring system properties with a management system; wherein
3	messages can be sent between each of the gateway server, routing server,
4	database server, and management system over the packet-switched network.
1	The system of claim 37, further comprising the steps of:
2	updating system components with a network manager that automatically
3	queries a client database to determine an update, and sends a message
4	representative of the update to at least one of the gateway server, routing server,
5	database server, and management system over the packet-switched network.
1	The system of claim 35, further comprising the steps of:
2	registering system components with a licensing server.
1	40- A method of providing gateway services in a voice communication
2	system over a packet-switched network, comprising the steps of
3	instantiating application services within an application layer, and
4	providing a software object platform for sessions and modules, wherein
5	said application layer includes a gateway service and a common service
1	41. A method of claim 40, wherein said application layer also includes
2	an autoforward service.
1	42. A method of claim 41, wherein said platform includes a session
2	manager that creates and manages sessions.
1	A method of claim 42, wherein said session manager includes a
2	rule engine.

1	44. A method of claim 42, wherein said session corresponds to a voice
2	call.
3	45. A method of claim 42, further comprising the steps of:
4	coordinating communication between a telephone line side and a
5	packet-switched network side of the gateway server with a line group manager;
6	managing route usage on the gateway server with a routing manager;
7	monitors access to the database server with a database access manager;
8	manages voice prompt usage with a media manager; and
9	determining the costs to apply to each call with a call rating manager.
1	46. A method of claim 45, further comprising the steps of:
2	maintaining a parsing subsystem coupled to said routing manager.
1	47. A method of claim 46, wherein said parsing subsystem comprises
2	the steps of:
3	maintaining a parsing table;
4	receiving call information;
5	determining a country code;
6	retrieving pattern data from said parsing table;
7	determining an area code;
8	determining a local number;
9	determining an extension; and
10	outputting a call address.
1	48. A method of claim 45, further comprising the steps of:
2	maintaining a dynamic cache subsystem coupled to said routing manager

l	49. A method of claim 46, wherein said parsing subsystem matches
2	routes by wildcarding.
1	50. A method of claim 45, further comprising the steps of:
2	connecting a conversion module.
1	A method of claim 45, further comprising the steps of:
2	coordinating telephony and network components with a hardware device
3	manager module.
1	52. A method of claim 45, wherein said routing manager comprises
2	the steps of:
3	maintaining means for maintaining a list of routes;
4	managing connections to the routing servers on the network;
5	exporting local routes to routing servers;
6	importing disseminated routes from routing servers;
7	receiving a request for a route;
8	obtaining static global and dynamic routes from routing servers;
9	caching said static global and said dynamic routes for future use;
10	finding matching routes for a specific telephone number; and
11	prioritizing matching routes.
1	A method of claim 52, further comprising the steps of:
2	connecting to routing servers; and
3	managing connections to routing servers.
1	54. A method of a gateway server, comprising the steps of:
2	handling calls on a packet-switched network;
3	handling calls on a telephony network,

4	bridging said calls with routes between both a packet-switched network
5	and a telephony network,
6	interacting with calls to collect user information;
7	interfacing with routing system;
8	for interfacing with database system; and
9	for interacting with other gateway servers.
1	55. A method of claim 54, wherein said routes comprise:
2	querying for a route; and
3	providing said route, wherein said route is stored locally on the gateway
4	server.
1	A routing server system comprising the steps of:
2	serving routes with a routing application layer; and
3	providing a common object platform for memory and modules, wherein
4	said routing application layer includes a route translation service.
1	A method of claim 56, further comprising the steps of:
2	maintaining a parsing subsystem coupled to the routing server.
1	58. A method of claim 57, wherein said parsing subsystem comprises
2	the steps of:
. 3	maintaining a parsing table,
· 4	receiving call information,
5	determining a country code;
6	retrieving pattern data from said parsing table,
7	determining an area code;
8	determining a local number;
9	determining an extension; and

10	outputting a can address.
1	A method of routing server, comprising the steps of:
2	receiving exported local routes from gateway servers;
3	transforming exported local routes into dynamic routes;
4	storing said dynamic routes;
5	storing static global and disseminated routes,
6	providing said disseminated routes to gateway servers;
7	receiving requests for matching routes from gateway servers;
8	determining a matching route, and
9	providing said matching route.
1	60. A method of claim, 59, wherein said means for exporting local
2	routes comprises the steps of:
3	requesting exportable local routes from gateway servers;
4	receiving said exportable local routes from gateway servers;
5	transforming said exportable local routed into dynamic routes on the
6	routing server;
7	storing said dynamic routes; and
8	updating said dynamic routes.
1	61. A method of claim 59, wherein said means for transforming an
2	exported local route comprises the steps of:
3	receiving exported local routes;
4	checking a route address entry,
5	checking route timing information;
6	checking a route access entry;
7	checking route ordering information;
8	adding a route identity;

9	adding of exporting gateway server, and
10	adding a temporal stamp to said exported local route.
1	A method of claim 59, wherein said means for disseminated
2	routing comprise:
3	providing routes to a routing server;
4	querying the routing server for said routes configured for dissemination;
5	and .
6	providing matching routes to a gateway server.
1	A method of claim 59, wherein said means for dynamic routing,
2	comprise:
3	connecting to a routing server,
4	querying a routing server;
5	providing matching routes to a gateway server, and
6	storing said matching routes on a gateway server.
7	64. A method of claim 59, wherein said means for static global
8	routing, comprise:
9	connecting means for connecting to a routing server;
10	querying means for querying a routing server; and
11	providing means for providing matching routes to a gateway server
1	A method of ordering routes, comprising the steps of:
2	checking the address of a route;
3	checking the preference of a route;
4	checking the cost estimate of a route;
5	checking the quality of service of a route; and
6	checking the type of route.

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1	A method of prioritizing routes, comprising the steps of:
2	checking a route address entry;
3	checking route timing information;
4	checking a route access entry;
5	checking route ordering information;
6	determining a reduced route;
7	comparing a requested route with said reduced route; and
8	providing a list of routes.
1	A method of determining a call address, comprising the steps of:
2	receiving parsed data;
3	matching area code digits;
4	matching phone number digits;
5	matching extension digits; and
6	prioritizing route addresses with matched digits.
1	68. A method of claim 67, wherein said matching means use wildcard
2	values to hold the place of number values.
1	A computer program product comprising a computer useable

A computer program product comprising a computer useable medium having computer program logic stored therein, said computer program logic comprising:

means for enabling a computer to handle calls received from a public switched telephone network and a packet-switched network with a gateway server;

means for enabling a computer to distribute call routing information with a routing server; and

 means for enabling a computer to manage user and call information with a database server, wherein messages can be sent between each of the gateway server, routing server, and database server over the packet-switched network.

- 70. The computer program product of claim 69, further comprising: means for enabling a computer to access database records with a provisioning system coupled to said database server.
- 71. The computer program product of claim 69, further comprising: means for enabling a computer to configure system properties with a management system; wherein messages can be sent between each of the gateway server, routing server, database server, and management system over the packet-switched network.
- 72. The computer program product of claim 71, further comprising: means for enabling a computer to update system components with a network manager that automatically queries a client database to determine an update, and sends a message representative of the update to at least one of the gateway server, routing server, database server, and management system over the packet-switched network.
- 73. The computer program product of claim 69, further comprising: means for enabling a computer to register system components with a licensing server.

A computer program product of providing gateway services in a voice communication system over a packet-switched network, comprising:

means for enabling a computer to instantiate application services within an application layer; and

3	means for enabling a computer to provide a software object platform for
6	sessions and modules, wherein said application layer includes a gateway service
7	and a common service.
1	75. A computer program product of claim 74, wherein said application
2	layer also includes an autoforward service.
1	76. A computer program product of claim 75, wherein said platform
2	includes a session manager that creates and manages sessions.
1	77. A computer program product of claim 76, wherein said session
2 .	manager includes a rule engine.
1	78. A computer program product of claim 76, wherein said session
2	corresponds to a voice call.
1	79. A computer program product of claim 76, further comprising:
2	means for enabling a computer to coordinate communication between a
3	telephone line side and a packet-switched network side of the gateway server with
4	a line group manager;
5	means for enabling a computer to manage route usage on the gateway
6	server with a routing manager;
7	means for enabling a computer to monitor access to the database server
8	with a database access manager;
9	means for enabling a computer to manage voice prompt usage with a
10	media manager; and
11	means for enabling a computer to determine the costs to apply to each call

with a call rating manager.

ì	80. A computer program product of claim 79, further comprising.
2	means for enabling a computer to maintain a parsing subsystem coupled
3	to said routing manager.
1	A computer program product of claim 80, wherein said parsing
2	subsystem comprises:
3	means for enabling a computer to maintain means for maintaining a
4	parsing table;
5	means for enabling a computer to receive means for receiving call
6	information;
7	means for enabling a computer to determine means for determining a
8	country code;
9	means for enabling a computer to retrieve means for retrieving pattern
10	data from said parsing table;
11	means for enabling a computer to determine means for determining an
12	area code;
13	means for enabling a computer to determine means for determining a local
14	number;
15	means for enabling a computer to determine means for determining an
16	extension; and
17	means for enabling a computer to output means for outputting a call
18	address.
1	A computer program product of claim 79, further comprising:
2	means for enabling a computer to maintain a dynamic cache subsystem
3	coupled to said routing manager.
1	83. A computer program product of claim 80, wherein said parsing
2	subsystem matches routes by wildcarding.

1	A computer program product of claim 79, further comprising:
2	means for enabling a computer to connect a conversion module.
l	A computer program product of claim 79, further comprising:
2	means for enabling a computer to coordinate telephony and network
3	components with a hardware device manager module.
1	86. A computer program product of claim 79, wherein said routing
2	manager comprises:
3	means for enabling a computer to maintain means for maintaining a list
4	of routes;
5	means for enabling a computer to manage means for managing
6	connections to the routing servers on the network;
7	means for enabling a computer to export means for exporting local routes
8	to routing servers;
9	means for enabling a computer to import meant for importing
10	disseminated routes from routing servers;
11	means for enabling a computer to receive means for receiving a request
12	for a route;
13	means for enabling a computer to obtain means for obtaining static global
14	and dynamic routes from routing servers;
15	means for enabling a computer to cache means for caching said static
16	global and said dynamic routes for future use;
17	means for enabling a computer to find means for finding matching routes
18	for a specific telephone number; and
19	means for enabling a computer to prioritize means for prioritizing
20	matching routes.

1	A computer program product of claim 86, further comprising:
2	means for enabling a computer to connect means for connecting to routing
3	servers; and
4	means for enabling a computer to manage means for managing
5	connections to routing servers.
1	A computer program product of a gateway server, comprising:
2	means for enabling a computer to handle calls on a packet-switched
3	network;
4	means for enabling a computer to handle calls on a telephony network;
5	means for enabling a computer to bridge said calls with routes between
6	both a packet-switched network and a telephony network;
7	means for enabling a computer to interact with calls to collect user
8	information;
9	means for enabling a computer to interface with routing system;
10	means for enabling a computer to interface with database system; and
11	means for enabling a computer to interacte with other gateway servers.
1	89. A computer program product of claim 88, wherein said routes
2	comprise:
3	means for enabling a computer to query for a route; and
4	means for enabling a computer to provide means for providing said route,
. 5	wherein said route is stored locally on the gateway server.
1	90. A routing server system comprising:
2	means for enabling a computer to serve routes with a routing application
3	layer; and

means for enabling a computer to provide a common object platform for

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5	memory and modules, wherein said routing application layer includes a route
6	translation service.
1	91. A computer program product of claim 90, further comprising:
2	means for enabling a computer to maintain a parsing subsystem coupled
3	to the routing server.
1	92. A computer program product of claim 91, wherein said parsing
2	subsystem comprises:
3	means for enabling a computer to maintain a parsing table;
4	means for enabling a computer to receive call information;
5	means for enabling a computer to determine a country code;
6	means for enabling a computer to retrieve pattern data from said parsing
7	table;
8	means for enabling a computer to determine an area code;
9	means for enabling a computer to determine a local number;
10	means for enabling a computer to determine an extension; and
11	means for enabling a computer to output a call address.
1	93. A computer program product of routing server, comprising:
2	means for enabling a computer to receive exported local routes from
3	gateway servers;
4	means for enabling a computer to transform exported local routes into
5	dynamic routes;
6	means for enabling a computer to store said dynamic routes;
7	means for enabling a computer to store static global and disseminated
8	routes;

means for enabling a computer to provide said disseminated routes to

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10	gateway servers;
11	means for enabling a computer to receive requests for matching routes
12	from gateway servers;
13	means for enabling a computer to determine a matching route; and
14	second providing means for provide said matching route.
1	94. A computer program product of claim 93, wherein said means for
2	exporting local routes comprises:
3	means for enabling a computer to request exportable local routes from
4	gateway servers;
5	means for enabling a computer to receive said exportable local routes
6	from gateway servers;
7	means for enabling a computer to transform said exportable local routed
8	into dynamic routes on the routing server;
9	means for enabling a computer to store said dynamic routes; and
10	means for enabling a computer to update said dynamic routes.
1	95. A computer program product of claim 93, wherein said means for
2	transforming an exported local route comprises:
3	means for enabling a computer to receive exported local routes;
4	means for enabling a computer to check a route address entry;
5	means for enabling a computer to check route timing information;
6	means for enabling a computer to check a route access entry;
7	means for enabling a computer to check route ordering information;
8	means for enabling a computer to add a route identity;
9	means for enabling a computer to add of exporting gateway server; and
10	means for enabling a computer to add a temporal stamp to said exported
11	local route.

A computer program product of claim 93, wherein said means for

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2	disseminated routing comprise:
3	means for enabling a computer to provide routes to a routing server;
4	means for enabling a computer to query the routing server for said routes
5	configured for dissemination; and
6	means for enabling a computer to provide matching routes to a gateway
7 ·	server.
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1	97. A computer program product of claim 93, wherein said means for
2	dynamic routing, comprise:
3	means for enabling a computer to connect to a routing server;
4	means for enabling a computer to query a routing server;
5	means for enabling a computer to provide matching routes to a gateway
6	server; and
7	means for enabling a computer to store said matching routes on a gateway
8 .	server.
1	98. A computer program product of claim 93, wherein said means for
2	static global routing, comprise:
3	means for enabling a computer to connect to a routing server;
4	means for enabling a computer to query a routing server; and
5	means for enabling a computer to provide matching routes to a gateway
6	server.
1	99. A computer program product of ordering routes, comprising:
2	means for enabling a computer to check the address of a route;
3	means for enabling a computer to check the preference of a route;
4	means for enabling a computer to check the cost estimate of a route;

5	means for enabling a computer to check the quality of service of a route;
6	and
7	means for enabling a computer to check the type of route.
l	100. A computer program product of prioritizing routes, comprising:
2	means for enabling a computer to check a route address entry;
3	means for enabling a computer to check route timing information;
4	means for enabling a computer to check a route access entry;
5	means for enabling a computer to check route ordering information;
6	means for enabling a computer to determine a reduced route;
7	means for enabling a computer to compare a requested route with said
8	reduced route; and
9	means for enabling a computer to provide a list of routes.
1	101. A computer program product of determining a call address,
2	comprising:
3	means for enabling a computer to receive parsed data;
4	means for enabling a computer to match area code digits;
5	means for enabling a computer to match phone number digits;
6	means for enabling a computer to match extension digits; and
7	means for enabling a computer to prioritize route addresses with matched
8	digits.
1	102. A computer program product of claim 101, wherein said matching
2	means use wildcard values to hold the place of number values.
1	103 The gateway server according to claim 6, further including
2	computer interface means for displaying said gateway server to a predetermined

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3 4 computer, information being exchanged with said predetermined computer, said computer interface means being capable of configuring said gateway server.

- 104. The routing manager according to claim 11, further including computer interface means for displaying said routing manager to a predetermined computer, information being exchanged with said predetermined computer, said computer interface means being capable of configuring said routing manager.
- 105. The routing server according to claim 22, further including computer interface means for displaying said routing server to a predetermined computer, information being exchanged with said predetermined computer, said computer interface means being capable of configuring said routing server.